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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RICHARD BILL SIM, RONG YAN,
and PHILIP ANASTASIOS ZIGORIS

Appeal 2015-001291¹
Application 13/447,099²
Technology Center 3600

Before JOSEPH A. FISCHETTI, NINA L. MEDLOCK, and
TARA L. HUTCHINGS, *Administrative Patent Judges*.

MEDLOCK, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1–7, 10–13, 15–21, and 31–44. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Our decision references Appellants' Appeal Brief ("App. Br.," filed August 15, 2013) and Reply Brief ("Reply Br.," filed October 31, 2014), and the Examiner's Answer ("Ans.," mailed September 2, 2014) and Final Office Action ("Final Act.," mailed April 26, 2013).

² Appellants identify Facebook, Inc. as the real party in interest. App. Br. 1.

CLAIMED INVENTION

Appellants' claimed invention "relates generally to social networking, and in particular to targeting users of a social networking system based on their interactions with objects within and external to the social networking system" (Spec. ¶ 2).

Claims 1 and 18 are the independent claims on appeal. Claim 1, reproduced below, is illustrative:

1. A method comprising:

maintaining a plurality of edge objects on a social networking system, the plurality of edge objects representing a plurality of actions having a plurality of action types, the plurality of actions performed on a plurality of objects by a plurality of users of the social networking system, each edge object comprising stored information about one or more of the plurality of actions having one or more of the plurality of action types, each action performed on one or more of the plurality of objects by one or more of the plurality of users;

receiving targeting criteria for an advertisement, the targeting criteria including one or more targeted action types;

retrieving a subset of the plurality of edge objects based on the targeting criteria, the subset of the plurality of edge objects representing a subset of the plurality of actions having the one or more targeted action types;

determining, by a computer system, a targeting cluster of users comprising a subset of the plurality of users of the social networking system associated with the subset of the plurality of edge objects; and

for a viewing user, providing the advertisement for display to the viewing user based on the viewing user being in the targeting cluster of users.

REJECTIONS

Claims 1–7, 10–13, 15–21, and 31–44 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 32, 34, 37, and 38 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter that Appellants regard as the invention.

Claims 1, 2, 6, 7, 10, 11, 13, and 15–17 are rejected under 35 U.S.C. § 102(b) as anticipated by Ismalon (US 2010/0049770 A1, pub. Feb. 25, 2010), which incorporates Herz (US 5,754,938, iss. May 19, 1998) by reference.

Claims 3–5, 12, 18–21, and 31–44 are rejected under 35 U.S.C. § 103(a) as unpatentable over Ismalon and Samdadiya (US 2010/0082429 A1, pub. Apr. 1, 2010).

ANALYSIS

Non-Statutory Subject Matter

Under 35 U.S.C. § 101, an invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *See, e.g., Alice Corp. Pty Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1300 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim

patent-eligible applications of these concepts.” *Alice Corp.*, 134 S. Ct. at 2355. The first step in that analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts,” *id.*, e.g., to an abstract idea. If the claims are not directed to an abstract idea, the inquiry ends. Otherwise, the inquiry proceeds to the second step where the elements of the claims are considered “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Alice Corp.*, 134 S. Ct. at 2355 (quoting *Mayo*, 132 S. Ct. at 1297).

The Court acknowledged in *Mayo*, that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 132 S. Ct. at 1293. We, therefore, look to whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

The Examiner found here that claims 1–7, 10–13, 15–21, and 31–44 are directed to the abstract idea of targeted advertising and, therefore, to a basic economic practice, and that the claims do not include limitations that are “significantly more” than this abstract idea because the additional elements or combination of elements in the claims amount to no more than “(i) mere instructions to implement the idea on a computer, and/or (ii) recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry” (Ans. 2).

Appellants argue that independent claims 1 and 18 are not directed to an abstract idea but rather to a “particular process for determining which users to target for specific advertising targeting criteria” (Reply Br. 2). But Appellants cannot reasonably deny that targeted advertising is a fundamental, long-standing, and well-known economic practice. Matching consumers with a given product or service “has been practiced as long as markets have been in operation.” *Tuxis Technologies, LLC v. Amazon.com, Inc.*, No. CV 13–1771–RGA, 2014 WL 4382446, at *5 (D. Del. Sept. 3, 2014); *see also OpenTV, Inc. v. Netflix Inc.*, 76 F.Supp.3d 886, 893 (N.D. Cal. 2014) (“The concept of gathering information about one’s intended market and attempting to customize the information then provided is as old as the saying, ‘know your audience.’”).

The claimed method, as recited in claim 1, begins with a first step of maintaining, i.e., storing, a plurality of “edge objects” on a social networking system. The edge objects represent a plurality of actions having a plurality of action types where the plurality of actions are performed on a plurality of objects by a plurality of users of the social networking system; each edge object comprises stored information about one or more of the plurality of actions having one or more of the plurality of action types, where each action is performed on one or more of the plurality of objects by one or more of the plurality of users of the social networking system.³ Next, targeting criteria for an advertisement, including one or more targeted action

³ The Specification discloses that an object may, for example, be a particular song, with a plurality of action types being performed on the song by a plurality of users of the social networking system, e.g., users can buy, listen, recommend, or like the song (Spec. ¶ 6).

types, are received, and these criteria are used to retrieve a subset of the plurality of edge objects having the one or more targeted action types. A plurality of users associated with the edge objects, i.e., a targeting cluster, is identified, and the advertisement is provided to these users for display.⁴

Applying the framework set forth in *Alice*, and as the first step of that analysis, we agree with the Examiner that the claims are directed to an abstract idea (Ans. 2). The steps recited in claims 1 and 18 involve nothing more than collecting data, i.e., information about the interactions of users of the social networking system with various objects; analyzing the data, i.e., to identify edge objects having action types that match the targeting criteria for a particular advertisement; and displaying the advertisement to those users associated with the identified edge objects. In this regard, the steps of claims 1 and 18 are similar to the steps that the Federal Circuit determined were patent ineligible in *Content Extraction & Transmission v. Wells Fargo Bank*, 776 F.3d 1343 (Fed. Cir. 2014) and, more recently, in *Elec. Power Grp. LLC v. Alstom*, 830 F.3d 1350 (Fed. Cir. 2016).

In *Content Extraction*, the Federal Circuit considered the patent eligibility of a method claim for “processing information from a diversity of types of hard copy documents.” *Content Extraction*, 776 F.3d at 1345. Applying step one of the *Alice* framework, the Federal Circuit determined that the claim was “drawn to the abstract idea of 1) collecting data, 2) recognizing certain data within the collected data set, and 3) storing that recognized data in a memory” — concepts that the court noted were “undisputedly well-known.” *Id.* at 1347.

⁴ The method recited in claim 18 is substantially similar.

In *Electric Power*, the method claims at issue were directed to performing real-time performance monitoring of an electric power grid by collecting data from multiple data sources, analyzing the data, and displaying the results. *Elec. Power Grp.*, 830 F.3d at 1351–52. The Federal Circuit held that the claims were directed to an abstract idea, explaining that “[t]he advance they purport to make is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions.” *Id.* at 1354.

Similarly here, we find that claims 1 and 18 involve nothing more than collecting data, analyzing the data, and displaying an advertisement based on the analyzed data — activities squarely within the realm of abstract ideas. *See id.* at 1353–54 (characterizing collecting information, analyzing information by steps people go through in their minds, or by mathematical algorithms, and presenting the results of collecting and analyzing information, without more, as matters within the realm of abstract ideas).

Turning to the second step of the *Alice* analysis, similar to the situation in *Electric Power*, we find nothing sufficient to remove the claims from the class of subject matter ineligible for patenting. As the court explained in *Electric Power*, “merely selecting information, by content or source, for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes, whose implicit exclusion from § 101 undergirds the information-based category of abstract ideas.” *Id.* at 1355.

There is no indication in the record that any specialized computer hardware or other “inventive” computer components are required. In fact,

the Specification explicitly discloses that the claimed invention is implemented using conventional computer system and standard communication technologies and protocols (*see, e.g.*, Spec. ¶¶ 26–29). Claims 1 and 18 merely employ generic computer components to perform generic computer functions, i.e., receiving, storing, and processing information, which is not enough to transform an abstract idea into a patent-eligible invention.

To the extent that Appellants argue that claims 1 and 18 necessarily contain an “inventive concept” because the claimed features are “novel and patentably distinct over the cited references” (Reply Br. 3), Appellants misapprehend the controlling precedent. Although the second step in the *Alice/Mayo* framework is termed a search for an “inventive concept,” the analysis is not an evaluation of novelty or non-obviousness, but rather, a search for “an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Alice*, 134 S. Ct. at 2355. A novel and nonobvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 132 S. Ct. at 1304

In view of the foregoing, we sustain the Examiner’s rejection of claims 1 and 18 under 35 U.S.C. § 101. For the same reasons, we also sustain the rejection of dependent claims 2–7, 10–13, 15–17, 19–21, and 31–44, which are not argued separately.

Indefiniteness

In rejecting claims 32, 34, 37, and 38 under 35 U.S.C. § 112, second paragraph, the Examiner takes the position that the phrase “receiving selected of the exposed set of edge objects as the targeting criteria,” as

recited in the claims, is incomprehensible and introduces ambiguity to the claims (Final Act. 2–3). The Examiner explains that it is not clear what is being “received” or what has been “selected,” and suggests that perhaps Appellants intended to “recite ‘receiving a selection [of something specific from the exposed set of edge objects] . . .’ but . . . did not recite such a step” (Ans. 3 (emphasis omitted)).

Appellants argue that the rejection is improper, and assert that the word “selected” is used in the claims in its adjective form, and not as a verb (Reply Br. 3). Referring specifically to claim 32, Appellants note that claim 32 depends from claims 31 and 1, and that claim 1 recites “receiving targeting criteria for an advertisement” (*id.* at 4). Appellants assert that claim 32 merely limits the targeting criteria received; “[i]n other words, the targeting criteria received (e.g., from an advertiser or whomever is providing the received targeting criteria) comprises selected of the exposed edge objects” (*id.*).

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *See Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986). Here, even with the understanding that the word “selected” is used in its adjective form, we agree with the Examiner that the claim language is unclear such that a person of ordinary skill in the art would not understand what is claimed. For example, it is not clear whether Appellants intend that the targeting criteria comprises “selected [*ones*] of the exposed edge objects” or something different. In our view, the claim language is ambiguous, and,

thus, indefinite. *See Ex parte Miyazaki*, 89 USPQ2d 1207, 1215 (BPAI 2008) (precedential). Therefore, we sustain the Examiner's rejection.

Anticipation

We are persuaded by Appellants' argument that the Examiner erred in rejecting independent claim 1 under 35 U.S.C. § 102(b) because Ismalon does not disclose

maintaining a plurality of edge objects on a social networking system, the plurality of edge objects representing a plurality of actions having a plurality of action types, the plurality of actions performed on a plurality of objects by a plurality of users of the social networking system, each edge object comprising stored information about one or more of the plurality of actions having one or more of the plurality of action types, each action performed on one or more of the plurality of objects by one or more of the plurality of users[,]

as recited in claim 1 (App. Br. 6–8). The Examiner relies on the Ismalon's user profiles, as well as Ismalon's vectors, as disclosing the claimed edge objects (Final Act. 3–4; Ans. 3–7). However, we agree with Appellants that Ismalon does not disclose that its user profiles or its vectors store information about actions performed on objects by users of a social networking system; as such, neither the user profiles nor the vectors constitute "edge objects," as called for in claim 1 (App. Br. 6–8; *see also* Reply Br. 4–12).

Ismalon discloses a method, with reference to Figure 2, for modeling interactions of online digital identities of users in order to increase the relevancy of content delivered to the users (Ismalon ¶ 113). In accordance with the method, the system observes the users' online behavior, including interactions of the users with online content, e.g., selecting a document from a set of search results, viewing video content, listening to audio content, and

constructs user profiles using information, e.g., words or terms, associated with the online content (*id.* ¶¶ 113–114). The system next identifies a set of topics, e.g., a set of one or more words, which characterize one or more of the user profiles (*id.* ¶ 115). The system uses these topics as coordinates of an N-dimensional vector space and projects the user profiles onto the space as respective vectors (*id.* ¶ 116). Ismalon discloses each of the vectors represents a distribution of the respective user over the topics, i.e., the strength of the user’s interests in the topics; the vectors of users having similar interests are, thus, projected onto the vector space in proximity to one another while the vectors of users who do not share common interests are projected onto the space farther from each other (*id.* ¶ 117).

In comparing Ismalon’s user profiles to the claimed edge objects, the Examiner notes that the observed user interactions can include selecting, viewing, and listening to content (Ans. 6). However, as Appellants correctly observe, “the fact that ‘selecting, viewing, and listening’ are observed does not mean that information about the actions — i.e., which of the observed selecting, viewing, and listening — is stored” (Reply Br. 8). We find nothing in the cited portions of Ismalon, on which the Examiner relies, that discloses storing information about the type of action; Ismalon merely discloses storing information about the content itself, i.e., words or terms that characterize the content.

In view of the foregoing, we do not sustain the Examiner’s rejection of independent claim 1 under 35 U.S.C. § 102(b). For the same reasons, we also do not sustain the rejection of dependent claims 2, 6, 7, 10, 11, 13, and 15–17.

Obviousness

Independent Claim 18 and Dependent Claims 19–21, 37–39, and 44

Claim 18 includes language substantially similar to the language of claim 1, and was rejected based on the same erroneous interpretation of Ismalon applied with respect to claim 1 (Final Act. 20–21; see also Ans. 14). The Examiner makes no further findings under 35 U.S.C. § 103(a) to remedy the shortfalls discussed above with respect to the anticipation rejection of claim 1. Therefore, we do not sustain the Examiner's rejection under 35 U.S.C. § 103(a) of independent claim 18, and claims 19–21, 37–39, and 44, which depend therefrom, for the same reasons set forth above with respect to claim 1.

Dependent Claims 3–5, 12, 31–36, and 40–43

Each of claims 3–5, 12, 31–36, and 40–43 depends, directly or indirectly, from independent claim 1. The Examiner's rejection of these dependent claims based on Samdadiya, in combination with Ismalon, does not cure the deficiency in the Examiner's rejection of claim 1. Therefore, we do not sustain the Examiner's rejection of claims 3–5, 12, 31–36, and 40–43 under 35 U.S.C. § 103(a).

DECISION

The Examiner's rejection of claims 1–7, 10–13, 15–21, and 31–44 under 35 U.S.C. § 101 is affirmed.

The Examiner's rejection of claims 32, 34, 37, and 38 under 35 U.S.C. § 112, second paragraph, is affirmed.

The Examiner's rejection of claims 1, 2, 6, 7, 10, 11, 13, and 15–17 under 35 U.S.C. § 102(b) is reversed.

Appeal 2015-001291
Application 13/447,099

The Examiner's rejection of claims 3–5, 12, 18–21, and 31–44 under 35 U.S.C. § 103(a) is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED